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Substitute for form 1449A/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 6

Complete if Known

Application Number	09/879,959
Filing Date	06/13/2001
First Named Inventor	Paul H. Weigel, et al.
Group Art Unit	1653
Examiner Name	G. Bogalsky R. W.
Attorney Docket Number	35541.049

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
	1	4169888		Herman et al.	10/02/1979	
MP	2	4224179		Schneider	09/23/1980	
MP	3	4235871		Papahadjopoulos, et al.	11/25/1980	
MP	4	4511478		Nowinski, et al.	04/16/1985	
MP	5	4517295		Bracke, et al.	05/14/1985	
	6	4615697		Robinson	10/07/1986	
MP	7	4708861		Popescu, et al.	11/24/1987	
	8	4780414		Nimrod, et al.	10/25/1988	
	9	4782046		Brown, et al.	11/01/1988	
	10	4784990		Nimrod, et al.	11/15/1988	
MP	11	4801539		Akasaka, et al.	01/31/1989	
	12	4822867		Erhart	04/18/1989	
MP	13	4885244		Miyamori et al.	12/05/1989	
	14	4889382		Robinson	01/08/1991	
MP	15	5015577		Weigel, et al.	05/14/1991	
MP	16	5023175		Hosoya, et al.	06/11/1991	
MP	17	5071751		Morita, et al.	10/12/1991	
	18	5171680		Kawaguchi, et al.	12/13/1992	
	19	5217743		Farah	06/08/1993	
	20	5337747		Neftel	08/18/1994	

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		Office ³	Number ⁴	Kind Code ⁵ (if known)				
MP	A		0036776 EPO		Kleid, et al.	05/11/1988		
	B		0144019 EPO		Brown, et al.	06/13/1990		
	C		0195303 EPO		Grandi, et al.	11/08/1989		
	D		0244757 EPO		Hosoya, et al.	11/09/1994		
	E		0266578 EPO		Miyamori, et al.	07/07/1993		
	F		91/03559 WO		Weigel, et al.	03/21/1991		
	G		94/00463 WO		Prehm, et al.	01/06/1994		
MP	H		95/24497 WO		Lansing, et al.	09/14/1995		
	I		95/33067 WO		Stahl, Stan	12/07/1995		
MP	J		97/20061 WO		Wong, et al.	08/05/1997		

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Date Considered

6/3/04

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				First Named Inventor	Paul H. Weigel, et al.
				Group Art Unit	1653
				Examiner Name	G. Bugaisky <i>R. Way</i>
				Attorney Docket Number	35541.049
Sheet	2	of	6		

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		Office ³	Number ⁴	Kind Code ⁵ (if known)				
—	K		8-38336 JP		Izumi, et al.	1996		
—	L		4-124854 JP			1992		
—	M		4-194854 JP			1992		
—	N		61-267160 JP			1980		
—	O		4-80202			03/13/1992		
W	P		63094988 JP		Seikagaku Jyogyo	1988		
W	Q		62032893 JP		Kyowa	1987		
W	R		4-158796 JP		Chisso Corp.	1992		
W	S		2249315 GB		Satch, et al.	05/06/1992		

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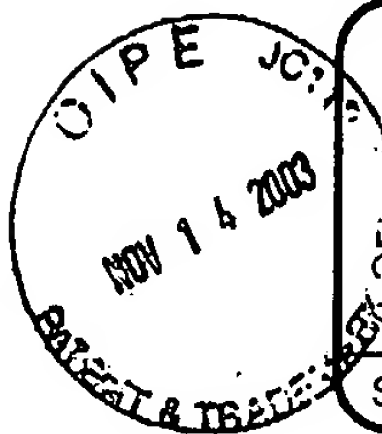
¹ Unique citation designation number. ² See attached Kinds of U.S. Patent Documents. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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Sheet 3

of 6

Compleat if Known

Application Number	09/879,959
Filing Date	06/13/2001
First Named Inventor	Paul H. Weigel, et al.
Group Art Unit	1653
Examiner Name	G. Bunnick R. Wax
Attorney Docket Number	35541.049

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
MPW	AA	"THE PRODUCTION OF CAPSULES, HYALURONIC ACID AND HYALURONIDASE BY GROUP A AND GROUP C STREPTOCOCCI", MacLennan, J. Gen. Microbiol., 14:134-142 (1956).	
MPW	BB	"THE ISOLATION AND CHARACTERIZATION OF A HYALURONIDASE PRODUCED BY A CAPSULATED STRAIN OF GROUP C STREPTOCOCCUS", MacLennan, J. Gen. Microbiol., 14:143-152 (1956).	
MPW	CC	"THE BIOSYNTHESIS OF HYALURONIC ACID BY GROUP A STREPTOCOCCUS", Markovitz et al., J. Biol. Chem., 234 (9):2343-2350 (1959).	
MPW	DD	"THE BIOSYNTHESIS OF HYALURONIC ACID BY STREPTOCOCCUS", Stoolmiller, et al., Journal of Biological Chemistry, Vol. 244, No. 2, pp. 236-246 (1969).	
MPW	EE	"THE ISOLATION AND CHARACTERIZATION OF HYALURONIC ACID FROM PASTEURELLA MULTOCIDA", Cifonelli, et al., Carbohydrate Research, 14, 272-276, (1970).	
MPW	FF	"BIOSYNTHESIS OF HYALURONIC ACID BY STREPTOCOCCUS", Sugahara et al., J. Biol. Chem., 254:6252-6261 (1979).	
MPW	GG	"MODERN GENETICS," Ayala, et al., Benjamin/Cummings Publishing Col., Menlo Park CA, p. 45 (1980).	
MPW	HH	"HYALURONIDASE PRODUCTION BY TYPE B PASTEURELLA MULTOCIDA FROM CASES OF HEMORRHAGIC SEPTICEMIA", Carter, et al., Journal of Clinical Microbiology, p. 94-96, (1980).	
MPW	II	"STRAINS OF ESCHERICHIA COLI CARRYING THE STRUCTURAL GENE FOR HISTIDYL-tRNA SYNTHETASE ON A HIGH COPY-NUMBER PLASMID," Eisenbeis, et al., Mol. Gen. Genet. 183:115-122 (1981).	
MPW	JJ	"SYNTHESIS OF HYALURONATE IN DIFFERENTIATED TERATOCARCINOMA CELLS," Prehm, et al., J. Biochem, Vol. 211, pp. 181-189 (1983).	
MPW	KK	"STREPTOCOCCAL HYALURONIC ACID: PROPOSED MECHANISMS OF DEGRADATION AND LOSS OF SYNTHESIS DURING STATIONARY PHASE", Van de Rijn, J. Bacteriol., 156(3):1059-1065 (1983).	

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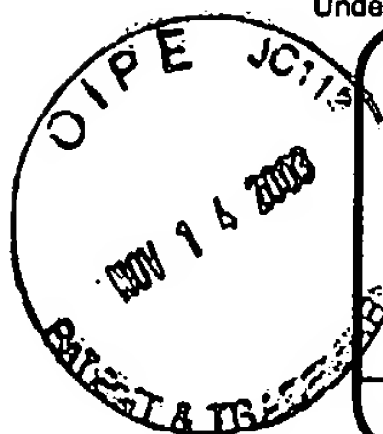
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Substitute for form 1449B/PTO		Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (use as many sheets as necessary)		Application Number	09/879,959
		Filing Date	06/13/2001
		First Named Inventor	Paul H. Weigel, et al.
		Group Art Unit	1653
		Examiner Name	G. Bugiel / K. Way
		Attorney Docket Number	35541.049
Sheet	4	of	6

OTHER PRIOR ART - NON PATENT LITERATURE DOCUMENTS			
Examiner Initials ¹	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	Y ²
MPW	LL	"SOLUBILIZATION OF HYALURONIC ACID SYNTHETIC ACTIVITY FROM STREPTOCOCCI AND ITS ACTIVATION WITH PHOSPHOLIPIDS", Triscott et al., J. Biol. Chem., 261(13):6004-6009 (1986).	
MPW	MM	"ISOLATION OF STREPTOCOCCAL HYALURONATE SYNTHASE", Prehm et al., Biochem. J., 235:887-889 (1986).	
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MPW	OO	"SHUTTLE VECTORS CONTAINING A MULTIPLE CLONING SITE AND A LACZA GENA FOR CONJUGAL TRANSFER OF DNA FROM ESCHERICHIA COLI TO GRAM-POSITIVE BACTERIA," Trieu-Cout, et al., Gene, Vol. 102, pp. 99-104, (1991).	
MPW	PP	"ANALYSIS OF THE STREPTOCOCCAL HYALURONIC ACID SYNTHASE COMPLEX USING THE PHOTOAFFINITY PROBE 5-AZIDO-UDP-GLUCURONIC ACID," Van de Rijn, et al., J. Biol. Chem., Vol. 267, No. 34, pp. 24302-24306, (1992).	
MPW	QQ	"MOLECULAR CHARACTERIZATION OF A LOCUS REQUIRED FOR HYALURONIC ACID CAPSULE PRODUCTION IN GROUP A STREPTOCOCCI," Dougherty, et al., J. Exp. Med., Vol. 175, pp. 1291-1299, (1992).	
MPW	RR	"HYALURONAN," Laurent, et al., FASEB Journal, Vol. 6, pp. 2397-2404, (1992).	
MPW	SS	"HYALURONIC ACID AND A (1-4)-B-D-XYLAN, EXTRACELLULAR POLYSACCHARIDES OF PASTEURELLA MULTOCIDA (CARTER TYPE A) STRAIN 880", Rosner, et al., Carbohydrate Research, 223, 329-333 (1992).	
MPW	TT	"ISOLATION OF A STREPTOCOCCUS PYOGENES GENE LOCUS THAT DIRECTS HYALURONAN BIOSYNTHESIS IN ACAPSULAR MUTANTS AND IN HETEROLOGOUS BACTERIA," DeAngelis, et al., J. Biol. Chem., Vol. 268, No. 20, pp. 14568-14571, (1993).	
MPW	UU	"HYALURONATE SYNTHASE: CLONING AND SEQUENCING OF THE GENE FROM STREPTOCOCCUS SP.," Lansing, et al., J. Biochem., Vol. 289, pp. 179-184, (1993).	
MPW	VV	"MOLECULAR CHARACTERIZATION OF HASB FROM AN OPERON REQUIRED FOR HYALURONIC ACID SYNTHESIS IN GROUP A STREPTOCOCCI," Dougherty, et al., J. Biol. Chem., Vol. 268, No. 10, pp. 7118-7124, (1993).	

Examiner Signature		Date Considered	6/13/04
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MP	WW	"MOLECULAR CLONING, IDENTIFICATION, AND SEQUENCE OF THE HYALURONAN SYNTHASE GENE FROM GROUP A STREPTOCOCCUS PYOGENES," DeAngelis, et al., J. Biol. Chem., Vol. 268, No. 26, pp. 19181-19184, (1993).	
MP	XX	"CAPSULAR HYALURONIC ACID IN PASTEURELLA MULTOCIDA TYPE A AND ITS COUNTERPART IN TYPE D", Pandit, Research in Veterinary Science 54, 20-24 (1993).	
MP	YY	"MOLECULAR CHARACTERIZATION OF HASA FROM AN OPERON REQUIRED FOR HYALURONIC ACID SYNTHESIS IN GROUP A STREPTOCOCCI," Dougherty, et al., J. Biol. Chem., Vol. 269, No. 1, pp. 169-175,	
MP	ZZ	"THE STREPTOCOCCUS PYOGENES HYALURONAN SYNTHASE: SEQUENCE COMPARISON AND CONSERVATION AMONG VARIOUS GROUP A STRAINS," DeAngelis, et al., Biochem. and Biophys. Res. Comm., Vol. 199, No. 1, pp. 1-10, (1994).	
MP	aa	"HYALURONIDASE AND CHONDROITINASE ACTIVITY OF PASTEURELLA MULTOCIDA SEROTYPE B:2 INVOLVED IN HAEMORRHAGIC SEPTICAEMIA", Rimler, et al., Veterinary Record 134, 67-68 (1994).	
MP	bb	"MOLECULAR FINGERPRINTING OF PASTEURELLA MULTOCIDA ASSOCIATED WITH PROGRESSIVE ATROPHIC RHINITIS IN SWINE HERDS". Gardner et al. Database Medline on Dialog, US Nat'l. Library of Medicine (Bethesda, MD, USA) No. 95161494, Abstract, J. Vet. Diagn. Invest. Oct. 1994. Vol. 6, No. 4 pages	
MP	cc	"THE ELUCIDATION OF NOVEL CAPSULAR GENOTYPES OF HAEMOPHILUS INFLUENZAE TYPE B WITH THE POLYMERASE CHAIN REACTION. Leaves et al. J. Medical Microbiology. 1995, Vol. 43, pages 120-124, entire document.	
MP	dd	"CAPSULAR HYALURONIC ACID-MEDIATED ADHESION OF PASTEURELLA MULTOCIDA TO TURKEY AIR SAC MACROPHAGES", Pruimboom, et al., Avian Diseases 40:887-893, (1996).	
MP	ee	"HOMOLOGS OF THE XENOPUS DEVELOPMENTAL GENE DG42 ARE PRESENT IN ZEBRAFISH AND MOUSE AND ARE INVOLVED IN THE SYNTHESIS OF NOD-LIKE CHITIN OLIGOSACCHARIDES DURING EARLY EMBRYOGENESIS", Semino et al., Proc. Natl Acad. Sci. USA, 93:4548-4553 (1996).	
MP	ff	"ENZYMOLOGICAL CHARACTERIZATION OF THE PASTEURELLA MULTOCIDA HYALURONIC ACID SYNTHASE", DeAngelis, Biochemistry, 35 (30): 9768-9771 (1996).	
MP	gg	"CONSTRUCTION AND CHARACTERIZATION OF A POTENTIAL LIVE ORAL CARRIER-BASED VACCINE AGAINST VIBRIO CHOLERAEE". Favre et al. Infection and Immunity. September 1996. Vol. 64, No. 9 pagres 3565-3570, entire document.	

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mw	hh	"MOLECULAR CLONING, EXPRESSION, AND CHARACTERIZATION OF THE AUTHENTIC HYALURONAN SYNTHASE FROM GROUP C STREPTOCOCCUS EQUISIMILIS", Kumari and Weigel, J. Biol. Chem., 272(51): 32539-32546 (1997).	
mw	ii	"HYALURONAN SYNTHASES", Weigel et al., J. Biol. Chem., 272 (22): 13997-14000 (1997).	
mw	jj	"IDENTIFICATION AND MOLECULAR CLONING OF A UNIQUE HYALURONAN SYNTHASE FROM PASTEURELLA MULTOCIDA", DeAngelis et al., J. Biol. Chem., 273(14): 8454-8458 (1998).	
mw	kk	"THE CAPSULE BIOSYNTHETIC LOCUS OF PASTEURELLA MULTOCIDA A:1", Chung, et al. FEMS Microbiol. Lett. 15 September 1998, Vol. 166, No. 2, pages 289-296, entire document.	
mw	ll	"TRANSPOSON Tn916 INSERTIONAL MUTAGENESIS OF PASTEURELLA MULTOCIDA AND DIRECT SEQUENCING OF DISRUPTION SITE", Paul L. DeAngelis, Microbial Pathogenesis, 24: 203-209 (1998).	

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